

BACKGROUND OF THE INVENTION

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The present invention relates generally to an improved data processing system and, in particular, to a method, system, and computer program for searching for and locating relevant data. Still more particularly, the present invention relates to a method, system, and computer program for searching for and locating relevant data with the aid of an expert.

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all segments of society such as the Internal Revenue Service and secretaries of state. Providing informational guides and/or searchable databases of online public records may reduce operating costs. Further, the Internet is becoming increasingly popular as a medium for commercial transactions.

Currently, the most commonly employed method of transferring data over the Internet is to employ the World Wide Web environment, also called simply "the Web". Other Internet resources exist for transferring information, such as File Transfer Protocol (FTP) and Gopher, but have not achieved the popularity of the Web. In the Web environment, servers and clients effect data transactions using the Hypertext Transfer Protocol (HTTP), a known protocol for handling the transfer of various data files (e.g., text, still graphic images, audio, motion video, etc.). The information in various data files is formatted for presentation to a user by a standard page description language, the Hypertext Markup Language (HTML). In addition to basic presentation formatting, HTML allows developers to specify "links" to other Web resources identified by a Uniform Resource Locator (URL). A URL is a special syntax identifier defining a communications path to specific information. Each logical block of information accessible to a client, called a "page" or a "Web page", is identified by a URL. The URL provides a universal, consistent method for finding and accessing this information, not necessarily for the user, but mostly for the user's Web "browser". A browser is a program capable of submitting a request for information identified by an identifier, such as, for example, a URL. A user may enter a domain name through a graphical user interface (GUI) for the browser to access a source of content. The

domain name is automatically converted to the Internet Protocol (IP) address by a domain name system (DNS), which is a service that translates the symbolic name entered by the user into an IP address by looking up the domain name in a database.

With respect to commerce on the Web, individual consumers and business use the Web to purchase various goods and services. In offering goods and services, some companies offer goods and services solely on the Web while
10 others use the Web to extend their reach.

Presently, time is a precious commodity for many people. Faced with time constraints due to holding a full time job, family, extracurricular activities and leisure time, people often have a difficult time allocating enough time to exploring the Web to gather information which may affect one's everyday life. Compounding this problem is the vast array of information available on the Web. Unless a person knows a specific web address to access, many hours can be expended searching for information. In addition, Web sites are often confusing and contain misleading information. Even after the investment of such time, often one ends up with volumes of irrelevant and unneeded information resulting in a fruitless search and the wasting of a considerable amount of time.

For example, suppose a person desires to purchase additional memory for a home computer. Due to the vast array of computer equipment vendors located on the Internet, by the person simply typing in "memory" in an attempt to search the Internet, several thousand web sites may be displayed matching this term. Sifting through all of these Internet sites would be an exercise in futility and consume a large amount of time.

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Docket No. AUS920010106US1

Furthermore, even if the proper memory chip is found on the Internet, a purchaser may not know if that particular memory chip will fit his or her machine. Typically, in the offline world this is not a problem because in a
5 store which sells such computer equipment, there is usually someone who works at the store that can be asked for help or there is some type of documentation describing what memory chip is proper for what specific computer. However, in the online world such help is not
10 available. A prospective purchaser of the memory chip must choose the memory chip without any available assistance.

Therefore, it would be advantageous to have an improved method, system, and computer instructions for
15 searching the Internet employing the aid of an expert.

FOIA b 7 - D

SUMMARY OF THE INVENTION

5 The present invention provides a method, system and computer readable instructions for obtaining assistance in a search for information concerning a subject area, on a data processing system. An interactive expertise session is requested. The request for the interactive expertise session is received from a live help selection option located on a browser graphical user interface.

10 Responsive to the request for the interactive expertise session, a communication interface and an electronic page are received which are related to the subject area. Generated interactive expertise is displayed. The generated interactive expertise is simultaneously

15 displayed upon both the communication interface and the electronic page.

Furthermore, the present invention provides a method, system and computer readable instructions for assigning an expert for assisting in a search for

20 information on a data processing system. The expert is registered with a web server on the data processing system. Characteristics of the registered expert are provided, wherein the characteristics of the registered expert are stored in a database. The registered expert

25 is then located to provide assistance in the search for information based on the stored characteristics.

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BRIEF DESCRIPTION OF THE DRAWINGS

The novel features believed characteristic of the invention are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

10 **Figure 1** is a pictorial representation of a data processing system in which the present invention may be implemented;

Figure 2 is a block diagram of a data processing system in accordance with a preferred embodiment of the present invention;

Figure 3 is a block diagram of a data processing system shown in which the present invention may be implemented;

Figure 4 is an exemplary block diagram of a browser
20 program in accordance with a preferred embodiment of the
present invention;

Figure 5 is an exemplary block diagram illustrating expert web servers and a client accessing a network in accordance with a preferred embodiment of the present invention;

Figure 6 is an exemplary flowchart illustrating an expert web server providing a means for the client accessing desired information on the network in accordance with a preferred embodiment of the present invention;

Figure 7 is an exemplary expert availability database in accordance with a preferred embodiment of the present invention;

Figures 8A and 8B are an exemplary client selection processes for selecting an expert in accordance with a preferred embodiment of the present invention;

Figure 9 is an exemplary graphical user interface for requesting and communicating with an expert in accordance with a preferred embodiment of the present invention;

Figure 10 is an exemplary client browser and expert browser for simultaneously accessing a web page in accordance with a preferred embodiment of the present invention; and

Figure 11 is an exemplary flowchart for a portal server enabling joint exploration of the Internet between a user and an expert in accordance with a preferred embodiment of the present invention.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference now to the figures, **Figure 1** depicts a pictorial representation of a network of data processing systems in which the present invention may be implemented. Network data processing system **100** is a network of computers in which the present invention may be implemented. Network data processing system **100** contains a network **102**, which is the medium used to provide communications links between various devices and computers connected together within network data processing system **100**. Network **102** may include connections, such as wire, wireless communication links, or fiber optic cables.

In the depicted example, server **104** is connected to network **102** along with storage unit **106**. In addition, clients **108**, **110** and **112** also are connected to network **102**. These clients **108**, **110**, and **112** may be, for example, personal computers or network computers. In the depicted example, server **104** provides data, such as boot files, operating system images, and applications to clients **108**, **110**, and **112**. Clients **108**, **110**, and **112** are clients to server **104**. Network data processing system **100** may include additional servers, clients, and other devices not shown.

In the depicted example, network data processing system **100** is the Internet with network **102** representing a worldwide collection of networks and gateways that use the TCP/IP suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, government, educational and other computer systems that

route data and messages. Of course, network data processing system **100** also may be implemented as a number of different types of networks, such as for example, an intranet, a local area network (LAN), or a wide area network (WAN). **Figure 1** is intended as an example, and not as an architectural limitation for the present invention.

Figure 2 is a block diagram of a data processing system in accordance with a preferred embodiment of the present invention. **Figure 2** is an example of a server, such as, for example, server **104** in **Figure 1**. Data processing system **200** may be a symmetric multiprocessor (SMP) system including a plurality of processors **202** and **204** connected to system bus **206**. Alternatively, a single processor system may be employed. Also connected to system bus **206** is memory controller/cache **208**, which provides an interface to local memory **209**. I/O bus bridge **210** is connected to system bus **206** and provides an interface to I/O bus **212**. Memory controller/cache **208** and I/O bus bridge **210** may be integrated as depicted.

Peripheral component interconnect (PCI) bus bridge
connected to I/O bus provides an interface to PCI
local bus . A number of modems and may be
connected to PCI bus . Typical PCI bus implementations
will support four PCI expansion slots or add-in
connectors. Communication links to network computers ,
, and in **Figure 1** may be provided through modem and
network adapter connected to PCI local bus
through add-in boards.

Additional PCI bus bridges **222** and **224** provide
30 interfaces for additional PCI buses **226** and **228**, from
which additional modems or network adapters may be

supported. In this manner, server **200** allows connections to multiple network computers. A memory mapped graphics adapter **230** and hard disk **232** may also be connected to I/O bus **212** as depicted, either directly or indirectly.

5 Those of ordinary skill in the art will appreciate that the hardware depicted in **Figure 2** may vary. For example, other peripheral devices, such as optical disk drive and the like also may be used in addition or in place of the hardware depicted. The depicted example is
10 not meant to imply architectural limitations with respect to the present invention.

The data processing system depicted in **Figure 2** may be, for example, an IBM RISC/System 6000 system, a product of International Business Machines Corporation in
15 Armonk, New York, running the Advanced Interactive Executive (AIX) operating system.

Figure 3 is a block diagram of a data processing system shown in which the present invention may be implemented. Data processing system **300** is an example of
20 a client computer, such as, for example, client computers **108**, **110** and **112** in **Figure 1**. Data processing system **300** employs a peripheral component interconnect (PCI) local bus architecture. Although the depicted example employs a PCI bus, other bus architectures such as Accelerated
25 Graphics Port (AGP) and Industry Standard Architecture (ISA) may be used. Processor **302** and main memory **304** are connected to PCI local bus **306** through PCI bridge **308**. PCI bridge **308** also may include an integrated memory controller and cache memory for processor **302**. Additional
30 connections to PCI local bus **306** may be made through direct component interconnection or through add-in boards. In the depicted example, local area network (LAN) adapter

310, small computer system interface SCSI host bus adapter 312, and expansion bus interface 314 are connected to PCI local bus 306 by direct component connection. In contrast, audio adapter 316, graphics adapter 318, and audio/video adapter 319 are connected to PCI local bus 306 by add-in boards inserted into expansion slots. Expansion bus interface 314 provides a connection for a keyboard and mouse adapter 320, modem 322, and additional memory 324. SCSI host bus adapter 312 provides a connection for hard disk drive 326, tape drive 328, and CD-ROM drive 330. Typical PCI local bus implementations will support three or four PCI expansion slots or add-in connectors.

An operating system runs on processor 302 and is used to coordinate and provide control of various components within data processing system 300 in **Figure 3**. The operating system may be a commercially available operating system such as Windows 2000, which is available from Microsoft Corporation. An object oriented programming system such as Java may run in conjunction with the operating system and provides calls to the operating system from Java programs or applications executing on data processing system 300. "Java" is a trademark of Sun Microsystems, Inc. Instructions for the operating system, the object-oriented programming system, and applications or programs are located on storage devices, such as hard disk drive 326, and may be loaded into main memory 304 for execution by processor 302.

Those of ordinary skill in the art will appreciate that the hardware in **Figure 3** may vary depending on the implementation. Other internal hardware or peripheral devices, such as flash ROM (or equivalent nonvolatile memory) or optical disk drives and the like, may be used

FOIA b 7 - D

in addition to or in place of the hardware depicted in **Figure 3**. Also, the processes of the present invention may be applied to a multiprocessor data processing system.

5 For example, data processing system **300**, if optionally configured as a network computer, may not include SCSI host bus adapter **312**, hard disk drive **326**, tape drive **328**, and CD-ROM **330**, as noted by dotted line **332** in **Figure 3** denoting optional inclusion. In that
10 case, the computer, to be properly called a client computer, must include some type of network communication interface, such as LAN adapter **310**, modem **322**, or the like. As another example, data processing system **300** may be a stand-alone system configured to be bootable without
15 relying on some type of network communication interface, whether or not data processing system **300** comprises some type of network communication interface. As a further example, data processing system **300** may be a personal digital assistant (PDA), which is configured with ROM
20 and/or flash ROM to provide non-volatile memory for storing operating system files and/or user-generated data.

The depicted example in **Figure 3** and above-described examples are not meant to imply architectural
25 limitations. For example, data processing system **300** also may be a notebook computer or hand held computer in addition to taking the form of a PDA. Data processing system **300** also may be a kiosk or a Web appliance.

30 The processes of the present invention are performed by processor **302** using computer implemented instructions, which may be located in a memory such as, for example,

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main memory 304, memory 324, or in one or more peripheral devices 326, 328, and 330.

5 The present invention provides a method, apparatus, and computer instructions for simplifying the process for searching the Internet for information. The mechanism of the present invention allows the user to employ an expert in a particular field and jointly search for relevant information with the expert. Areas such as shopping for homes, shopping for land, examining medical or academic
10 information, and the like may be provided by the expert in each field. The user may register the service of an expert in various fields via the Internet. The user may request an expert with a live help selection, displayed, for example, on a graphical user interface. The user's
15 current display may be displayed on the expert's display, thereby aiding the expert in assisting the user during the joint search session or interactive expertise session. The information available to both the user and the expert may be displayed by way of a graphical user
20 interface. During the joint search session, the user and the expert may communicate with each other by a variety of means, such as, for example, electronic mail, an instant message messaging service, and the like.

In return for assisting the user, the expert may be
25 compensated by charging the user. The user may be charged, for example, on a flat fee basis, a per minute basis, or a commission basis or by providing micropayments to the advisor. A micropayment may be made by several users employing the assistance of the expert
30 at the same time. By using the micropayment option and splitting the expert's fees among several users, the user's may be able to employ the expert at a minimal cost.

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Figure 4 is an exemplary block diagram of a browser program in accordance with a preferred embodiment of the present invention. A browser is an application used to navigate or view information or data in a distributed database, such as the Internet or the World Wide Web.

In this example, browser **400** includes a user interface **402**, which is a graphical user interface (GUI) that allows the user to interface or communicate with browser **400**. This interface provides for selection of various functions through menus **404** and allows for navigation through navigation **406**. For example, menu **404** may allow a user to perform various functions, such as saving a file, opening a new window, displaying a history, and entering a URL. Navigation **406** allows for a user to navigate various pages and to select Web sites for viewing. For example, navigation **406** may allow a user to see a previous page or a subsequent page relative to the present page. Preferences such as those illustrated in **Figure 4** may be set through preferences **408**.

Communications **410** is the mechanism with which browser **400** receives documents and other resources from a network such as the Internet. Further, communications **410** is used to send or upload documents and resources onto a network. In the depicted example, communications **410** uses HTTP. Other protocols may be used depending on the implementation. Documents that are received by browser **400** are processed by language interpretation **412**, which includes an HTML unit **414** and a JavaScript unit **416**. Language interpretation **412** will process a document for presentation on graphical display **418**. In particular, HTML statements are processed by HTML unit

Docket No. AUS920010106US1

414 for presentation while JavaScript statements are processed by JavaScript unit **416**.

Graphical display **418** includes layout unit **420**, rendering unit **422**, and window management **424**. These
5 units are involved in presenting Web pages to a user based on results from language interpretation **412**.

Browser **400** is presented as an example of a browser program in which the present invention may be embodied. Browser **400** is not meant to imply architectural
10 limitations to the present invention. Presently available browsers may include additional functions not shown or may omit functions shown in browser **400**. A browser may be any application that is used to search for and display content on a distributed data processing
15 system. Browser **400** may be implemented using known browser applications, such as Netscape Navigator or Microsoft Internet Explorer. Netscape Navigator is available from Netscape Communications Corporation while Microsoft Internet Explorer is available from Microsoft
20 Corporation.

Figure 5 is an exemplary block diagram illustrating expert web servers and a client accessing a network in accordance with a preferred embodiment of the present invention. Any number of experts and/or expert web
25 servers may be employed at one time by a user in an effort to more effectively search and retrieve relevant information on the Internet. For example, a user may employ two experts to search for information regarding a certain area in an effort to gain as much information as
30 possible on the area in a reduced time frame. As a further example, a user may use two experts to search for information in an effort to get an instantaneous "second

FOIA b 7 - DATED 04/24/01

Docket No. AUS920010106US1

opinion" with one of the experts verifying or discrediting the information the other expert has obtained.

In this example, network 502 may be linked to web server 504 and 506. In addition network 502 is also linked to client 508 and expert web servers 512 and 514. Live experts 516, 518, and 520 are located at expert web server 512 and expert web server 514 as shown in **Figure 5**. Each client web server may have associated with the client a plurality of experts. Client 508 also includes browser 510 in this example. Browser 510 may be similar to browser 400 illustrated in **Figure 4**.

Client 508 may first contact expert web server 512 and/or 514. Expert web servers 512 and/or 514 assists client 508 to locate information within web servers 504 and/or 506. In one embodiment, client 508 accesses network 502 and requests expert assistance from either expert web server 512 or web server 514. In an alternate embodiment, expert assistance may be requested from both web server 512 and web server 514. Multiple experts may simultaneously provide assistance from web server 512 or 514.

In this example, client 508 requests expert assistance from network 502. At the initiation of the request from client 508, using for example, browser 510, a display may be provided listing experts or expert servers. A user may search for an expert or expert server from this listing. Network 502 may contact expert web server 512 or expert web server 514. Alternatively, network 502 may contact both expert web server 512 and

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Docket No. AUS920010106US1

expert web server **514**. Once this contact is made, a connection is made through network **502** to connect, for example, expert web servers **512** and/or **514** to client **508**. Expert web servers **512** and/or **514** may contact client **508** directly. The communication between expert web servers **512** and/or **514** and client **508**, may be, for example, electronic mail, an instant messaging service system, voice or web enabled phone communications, and the like.

Once expert web servers **512** and/or **514** and client **508** are communicating with each other, expert web servers **512** and/or **514** may receive more detail as to the information that client **508** is searching for. For example, the area of expertise that client **508** requests from expert web servers **512** or **514** may be in the area of electronic memory chips. Network **502** may search for available experts in the area of electronic memory chips. However, when expert web servers **512** and/or **514** and client **508** are actually communicating with each other, client **508** may narrow the search down to, for example, electronic memory chips which perform at a specified speed. By narrowing down the search in this manner, expert web servers **512** and/or **514** may more easily pinpoint the exact information client **508** wants.

Expert web servers **512** and/or **514** may then access web servers **504** and/or **506** to find the information client **508** has requested. With the knowledge that live expert **516** at expert web server **512** and/or live experts **518** and **520** at expert web server **514** possess, expert web servers **512** and/or **514** have the ability to go directly to the requested information without also including irrelevant information. Once expert web servers **512** and/or **514** have

found the appropriate information located, for example, on a web site on web servers **504** and/or **506**, the web site link(s) is/are sent to client **508**. Expert web servers **512** and/or **514** and client **508** may simultaneously access
5 the web site. The display of the web site is simultaneously displayed to both a user at client **508** and live expert **516** located at expert server **512** and/or live experts **518** and **520** located at expert web server **514**. During this interactive cooperation between client **508**
10 and expert web servers **512** and/or **514**, the systems remain in constant communication with each other.

Figure 6 is an exemplary flowchart illustrating an expert web server providing a means for the client accessing desired information on the network in
15 accordance with a preferred embodiment of the present invention. In this example, the operation starts by the expert web server receiving an assistance request for information from the client (step **602**). The expert web server then receives input from an expert at the expert
20 web server to find the requested information for the client (step **604**). The expert web server then transmits the information to the client (step **606**). Then a determination is made as to whether or not the client is requesting additional information from the expert web
25 server (step **608**). If the client is not requesting additional information from the expert web server (step **608:NO**), the operation terminates. If the client is requesting additional information from the expert web server (step **608:YES**), the operation returns to step **602**
30 in which the expert web server receives an assistance request from the client.

Figure 7 is an exemplary expert availability

Docket No. AUS920010106US1

database in accordance with a preferred embodiment of the present invention. The particular field and organization shown in **Figure 7** is for illustrative purposes only and any other fields or organizations may be used in addition to or in replacement of those shown in **Figure 7** without departing from the spirit and scope of the present invention.

In this example, once assistance is requested from a client, an expert web server, for example expert web server **702** may access database **700**. Database **700** may contain information regarding characteristics of experts, such as, for example, experts **516**, **518** and **520** in **Figure 5** which may include an identification of the expert, whether the expert is currently connected at the present time and is available for assisting in a search for information, the scheduled availability of the expert and the rate the expert expects in exchange for providing the expert assistance. In this example, expert **516** is currently connected, is available between the hours of 9 a.m. to 5 p.m. to provide expert assistance and expects to receive \$5.00 per hour in exchange for providing expert assistance. In addition, database **700** indicates that expert **518** is not currently connected and is unavailable to assist a client in a search for information over the Internet. Therefore, if the client requests assistance in a search for information over the Internet at 1:00 p.m. and database **700** reflects the current status of experts **516**, **518** and **520** at 1:00 p.m., experts **516** and **520** may be available to assist the client in the search for the information over the Internet.

Therefore, experts located at expert web servers may register with a server and provide assistance to clients

Docket No. AUS920010106US1

on an as needed basis and earn extra income. The experts located at the expert web servers may provide characteristics and these characteristics may be stored in a database, such as database 700. As illustrated by database 700, the schedule of the experts may be flexible. The expert schedules may reflect the amount of available time the expert has to devote to providing expert assistance to a client in locating information over the Internet.

10 **Figures 8A and 8B** are an exemplary client selection processes for selecting an expert in accordance with a preferred embodiment of the present invention. **Figure 8A** illustrates one method of selecting an expert by a client. In response to live help request 802, search 804
15 may be performed regarding a subject matter in which the client is interested. The client may input the subject matter, for example, "memory chips" and expert list 806 may be displayed after searching available experts and matching the available experts with the input subject
20 matter or "memory chips." In this example, expert list 806 contains entries for experts 516, 518 and 520 which, in this example, all have expertise in the field of "memory chips." The client may choose any one of experts 516, 518, and 520 to receive information regarding
25 experts 516, 518, and 520. The information regarding experts 516, 518, and 520, may be, for example, identification of the expert, whether the expert is currently connected and available for assisting a client in searching for information, hours of availability and
30 rates for providing the assistance as illustrated in database 700 in **Figure 7**. Once an expert is chosen, the client may then connect to the chosen expert's web

server.

Figure 8B illustrates an alternate method of selecting an expert by a client. In response to live help request **802**, expert web server list **808** may be displayed which may include all expert web servers which have experts in the field of, for example, "memory chips." The client may choose one expert web server, for example expert web server **514** and the experts associated with chosen expert web server **514** may be displayed in expert list **810**. In this example, experts **518** and **520** are associated with expert web server **514**. From expert list **810**, the client may choose either expert **518** or expert **520**. Alternatively, the client may choose both expert **518** and **520** to assist in the search for information over the Internet.

Figure 9 is an exemplary graphical user interface for requesting and communicating with an expert in accordance with a preferred embodiment of the present invention. Graphical user interface **900** may be used by, for example, client **508** in **Figure 5** to request the help of an expert as well as communicate with an expert.

In this example, graphical user interface **900** contains HTML page display **902** and instant messaging service window **904**. HTML page display **902** and instant messaging service window **904** are used for communication between a client, such as client **508** and an expert web server, such as, for example, expert web server **514** in **Figure 5**. Graphical user interface **900** also contains file **906**, edit **908**, search **910** and live help button **912**. The selection of live help button **912** by a user will activate the process of searching for an expert to help

Docket No. AUS920010106US1

with the gathering of information by the user. If live help button **912** is, for example, "clicked" upon, a list of experts, for example, expert web servers **512-n**, may be queried to determine if these experts possess the expertise to aid in the search of the information requested by a user. For example, expert web servers **512** and/or **514** may be queried to determine if any of the expert web servers **512** and/or **514** includes an expert in the field of, for example, electronic memory chips.

Alternatively, a client may select expert web servers **512** and/or **514** directly and then may select an expert within web servers **512** and/or **514** which are experts in the field of electronic memory chips.

If any of expert web servers **512** and/or **514** includes an expert in the field of electronic memory chips, then the availability of experts associated with the expert web servers in this field is determined. For example, assume expert web servers **512** and **514** includes experts in the field of electronic memory chips. However, expert web server **512** is currently unavailable to help the user.

Therefore, expert web server **514** is chosen to assist in the search for information regarding electronic memory chips. In response to the selection of expert web server **514**, experts **518** and **520** may be displayed. The client may choose either expert **518** or **520**. Alternatively, the client may choose both expert **518** and **520** to assist in the search for information over the Internet.

Expert web server **514** may contact the user using instant messaging service window **904**. The user and expert web server **514** may continue communicating throughout the search for the information. When expert web server **514** finds, for example, an appropriate web

FOIA b 7 - DEXTER

Docket No. AUS920010106US1

page containing the information requested by the user, expert web server **514** may send the web page link which will be displayed on HTML page **902**. The user may access the web page via the web page link and the web page will
5 be displayed on HTML page **902**.

Figure 10 is an exemplary client browser and expert browser for simultaneously accessing a web page in accordance with a preferred embodiment of the present invention. The client and expert may simultaneously
10 navigate the Internet with similar displays on their respective display devices. Once expert web server **512** in **Figure 6** accesses web page hyperlink **1014** by, for example, clicking on hyperlink **1014** using cursor **1028**, web server **1004**, which contains web page **1006**, will send
15 web page **1006** to network **1002**. Network **1002** will distribute web page **1006** to both client browser **1008** and expert browser **1010** or the client browser may receive web page **1006** via the expert. Web page **1006** will be sent to expert browser via expert server **1016**. If an expert
20 located at expert server **1016** selects hyperlink **1014**, then both the user and the expert access web page **1006** associated with hyperlink **1014**. Web page **1006** will then be displayed on client browser **1008** as well as on expert browser **1010**. Communication is maintained between the
25 user by using, for example, instant messaging service **1022** located on client browser **1008** and instant messaging service **1024** located on expert browser **1024**. Once web page **1006** is displayed upon client browser **1008**, the user may choose specific items from web page **1006** by using
30 client cursor **1026**.

Figure 11 is an exemplary flowchart for a portal

FOIA b7D - 4544360

Docket No. AUS920010106US1

server enabling joint exploration of the Internet between a user and an expert in accordance with a preferred embodiment of the present invention. In this example, the operation begins with a determination as to whether or not the user is registered to access the online help system (step **1101**). If the user has an existing registration to access the online help system (step **1101:YES**), then the operation continues to step **1108** in which a request for online expert help is received. If the user is not registered to access the online help system (step **1101:NO**), then a request is received to register for an online expert help system from a client machine (step **1102**). A prompt is then made for user information (step **1104**). The prompt for user information may include, for example, information about the user requesting the assistance of an expert. The user information may include, for example, credit card information for payment purposes, personal information such as name and address, areas of interest in which to request the assistance of an expert, and the like. The user registration information is received (step **1106**) and then a request is received for online expert help (step **1108**). Then an expert help system graphical user interface is displayed (step **1110**). The graphical user interface may be, for example, similar to graphical user interface **600** in **Figure 6**. A determination is then made as to which area the user needs online help (step **1112**). Then a determination is made as to whether or not this area of expert help exists within the online expert help system (step **1114**). If this area of expert help does not exist in the online expert help system (step **1114:NO**), then a message is displayed indicating that this area of

FOIA b 7 - D

Docket No. AUS920010106US1

expert help is not available for this request (step
1116). Then a determination is made as to whether or not
another area of online expert is requested (step 1118).
If another area of online expert help is requested (step
5 1118:YES), then the operation returns to step 1112 to
determine which area a user needs online expert help. If
another area of online expert help is not requested (step
1118:NO), the operation terminates.

Returning to step 1114, if it is determined that the
10 area of help requested by the user is available on the
online expert system (step 1114:YES), then the user is
connected to an available expert in the area requested by
the user (step 1120). Then a prompt is displayed to the
expert requesting that the expert send an electronic
15 message to the user asking the user for the particular
type of expert help needed (step 1122). The electronic
message may be by, for example, electronic mail or an
instant messaging service. Then an address is received
from the expert for a web site containing relevant user
20 requested information (step 1124). Alternatively, an
expert may use an Internet search engine. A
determination is then made as to whether or not a request
for access to the web site is received from a server of
the expert (step 1126). If the request for access to the
25 web site is received from a server of the expert (step
1126:YES), the web site is displayed on the server of the
expert and the client of the user (step 1128). If the
request for access to the web site is not received from a
server of the expert (step 1126:NO), then a determination
30 is made as to whether or not the request for access to
the web site is received from the client of the user
(step 1130). If the request for access to the web site

FOIA b 7 - D

Docket No. AUS920010106US1

is received from the client of the user (step **1130:YES**), the web server site is displayed to both the server of the expert and client of the user (step **1128**).

If the request for access to the web site is not
5 received from the client of the user (step **1130:NO**) or after displaying the web site on both the server of the expert and the client of the user (step **1128**), the operation continues by calculating a fee for employment of the expert by the user (step **1132**). The fee is
10 displayed to the user (step **1134**) and the operation returns to step **1118** in which a determination is made as to whether or not another area of expert help is requested.

Therefore, the present invention provides a
15 mechanism by which a user can search the Internet employing the aid of an expert. With the vast amount of information available on the Internet, the present invention provides a mechanism by which a user may more easily and in a more timely manner find the exact
20 information relevant to the user's search. In conjunction with an expert in an area applicable to the user's interest, only that information which the user specifically desires can be found in an efficient matter without the undue waste of the user's valuable time.

25 It is important to note that while the present invention has been described in the context of a fully functioning data processing system, those of ordinary skill in the art will appreciate that the processes of the present invention are capable of being distributed in
30 the form of a computer readable medium of instructions and a variety of forms and that the present invention applies equally regardless of the particular type of

FOIA b 7 - D

Docket No. AUS920010106US1

signal bearing media actually used to carry out the distribution. Examples of computer readable media include recordable-type media, such as a floppy disk, a hard disk drive, a RAM, CD-ROMs, DVD-ROMs, and
5 transmission-type media, such as digital and analog communication links, wired or wireless communication links using transmission forms, such as, for example, radio frequency and light wave transmissions. The computer readable media may take the form of coded
10 formats that are decoded for actual use in a particular data processing system.

The description of the present invention has been presented for purposes of illustration and description, and is not intended to be exhaustive or limited to the
15 invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. The embodiment was chosen and described in order to best explain the principles of the invention, the practical application, and to enable others of
20 ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use contemplated.

FOIA b 7 - DEXTER